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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/304,523      | 05/04/1999  | SHUNPEI YAMAZAKI     | 07977/046002        | 9801             |

20985 7590 06/21/2004

FISH & RICHARDSON, PC  
12390 EL CAMINO REAL  
SAN DIEGO, CA 92130-2081

EXAMINER

KUNEMUND, ROBERT M

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1765

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/304,523

Applicant(s)

YAMAZAKI ET AL.

Examiner

Robert M Kunemund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-12, 16-18, 22-30, 38, 40, 42-44, 46, 48, 50-60, 62, 64 and 66-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12, 16-18, 22-30, 38, 40, 42-44, 46, 48, 50-60, 62, 64 and 66-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **The Rejections**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103® and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10-12, 16-18, 22-30, 38, 40, 42-44, 46, 48, 50-60, 62, 64 and 66 to 73 rejected under 35 U.S.C. 103(a) as being unpatentable over Imahashi in view of Celler et al. .

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Imahashi et al. teaches (col. 5 lines 10-23 and 34) a method for manufacturing an LCD device, comprising the step of: forming a semiconductor (amorphous silicon) film over a substrate having an insulating upper surface (glass substrate); and irradiating (crystallizing by heating) the semiconductor film with an exciter laser beam having a cross section which is elongated in one direction (rectangular cross section), while relatively moving the substrate (holding the substrate with a vacuum chuck) during transport ( col. 7 line 13, also col. 1 and 2.

Imahashi et al. does not teach vacuum- holding the lower surface of the substrate in contact with the flat surface of the stage during irradiation. Seller et al. teaches vacuum-holding the lower surface of the substrate in contact with the flats surface of the stage during irradiation (i.e., holding the substrate with a vacuum chuck during laser irradiation, col. 6 lines 39-40). Because it would have been convenient to do so, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of seller et al. with those of Yamachiche et al. So as to hold the substrate during laser irradiation with a vacuum chuck.

Imahashi et al. does not teach that the vacuum chuck comprises a stage having a flat surface, and at least one suction inlet, and operates in such a manner that the lower surface of the substrate is in contact with the flats surface of the stage. However,

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since Imahashi et al. Teach the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. as evidence tending to show inherency, it is noted that a vacuum chuck must embody these properties if it is to be used effectively.

Imahashi et al. does not teach flattening the substrate. However, since Imahashi et al.

teaches the method claimed, under the principle of inherence the invention is considered to be anticipated in this regard by Imahashi et al. As evidence tending to show inherence, it is noted that any substrate held successfully by a vacuum chuck must tend to flattened by the pressure difference. Also, the reference does not teach the use of clamps on the stage. However, this is an apparatus limitation in a method claim and given little or no weight in determining patentability. One of ordinary skill in the art would have obvious use clamps to aid in the holding of the substrate in order to create a uniform surface for crystallization.

Imahashi et al. does not teach irradiating the crystallized semiconductor film (claims 19-24,41 and 42). Celler et al. teaches irradiating the crystallized semiconductor film Col.6 lines 28-29). Because Celler et al. teaching that this increases mobility (col.1 lines 35-39 and 54-58), it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of Celler et al. with those of Imahashi et al. so as irradiate the crystallized semiconductor film and produce a superior LCD device as an expected result.

Response to Applicants Arguments

Applicant's arguments filed April 9, 2004 have been fully considered but they are not persuasive.

Applicants' argument concerning the Imahashi reference is noted. However, the reference clearly teaches to hold the substrate flat and to use multiple means in order to obtain a flat substrate.

Applicants' argument concerning the Cellar et al reference has been considered and not deemed persuasive. The reference teaches a vacuum chuck to hold a wafer or substrate flat. The reference is not limited in scope to one suction area as argued, there is no statement there is only one. In view of the teachings of the Imahashi et al reference where more than one means is used, one of ordinary skill in the art would know to use more than one suction means. The combination teaches multiple means to hold the substrate flat.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M Kunemund whose telephone number is 571-272-1464. The examiner can normally be reached on 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMK



ROBERT KUNEMUND  
PRIMARY EXAMINER